



# Assessing the likelihood that Virginia schools will meet the proficiency goals of the No Child Left Behind Act



## Summary



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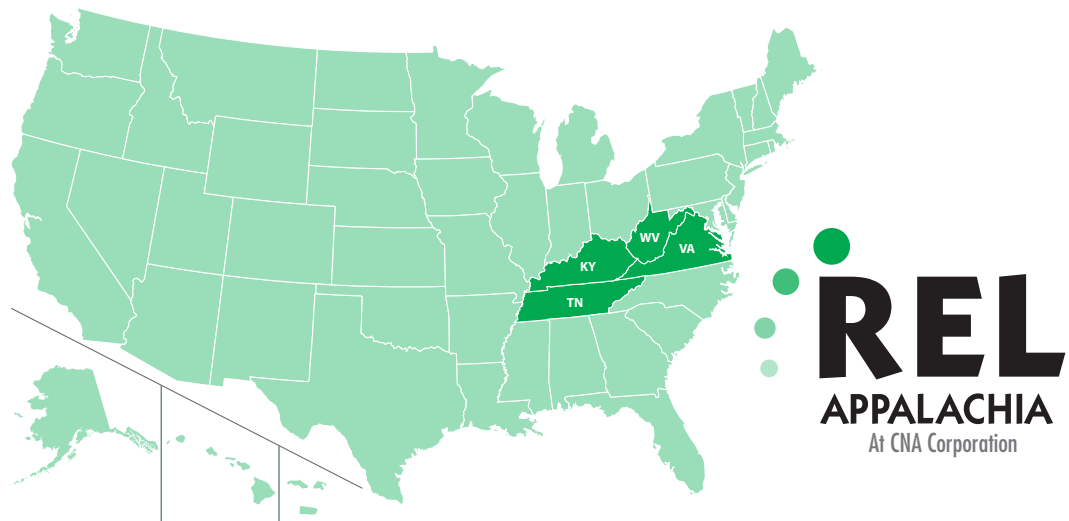
# Assessing the likelihood that Virginia schools will meet the proficiency goals of the No Child Left Behind Act

Summary

**September 2007**

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## Summary

# Assessing the likelihood that Virginia schools will meet the proficiency goals of the No Child Left Behind Act

**This report investigates progress in Virginia public schools in satisfying the requirement of the No Child Left Behind Act of 2001 that every student be proficient in reading and math by 2014. It develops a variable change model that uses observed baseline proficiency and proficiency trends at individual schools to forecast gains for six subgroups in elementary, middle, and high schools.**

The study finds that there were substantial increases in proficiency overall and especially large increases for schools and subgroups that had low proficiency levels in 2002. The forecasts indicate that there will continue to be substantial proficiency increases in the near term, but that with few exceptions proficiency will plateau at levels well below 100 percent before 2014.

The report looks at proficiency levels for students overall and in six subgroups in elementary, middle, and high schools in reading and math in more than 1,600 Virginia schools in the first four years after passage of the No Child Left Behind Act. These observed trends are then used to forecast reading and math proficiency levels for 2006 through 2014.

The forecast of proficiency levels relies on a variable change model rather than a constant

change model. The model is based on the assumption that as a school reaches higher proficiency levels, its proficiency will grow at the average annual 2002–05 pace achieved by other schools of the same type that attained that higher base proficiency level in 2002. Estimating the relationship between the change in proficiency between 2002 and 2005 and the proficiency level attained in 2002 provides a realistic answer to the central analytic question: Are rates of improvement likely to rise, fall, or remain constant relative to current rates?

The research yielded several major findings:

- Virginia schools increased their proficiency levels between 2002 and 2005. In 2002, in an average school, 74.3 percent of students tested proficient in reading. On average, a school's reading proficiency increased by 6.9 percentage points over the next three years (7.0 for elementary schools, 7.6 for middle schools, and 5.9 for high schools). In an average school math proficiency increased by 9.8 percentage points (9.2 for elementary schools, 9.0 for middle schools, and 13.0 for high schools).
- There was substantial variation in reading proficiency change across schools of each type between 2002 and 2005. Seventy percent of elementary schools had changes

of between -3.3 and +17.3 percentage points, 70 percent of middle schools had changes of between -1.2 and +16.4 percentage points, and 70 percent of high schools had changes of between -3.1 and +14.9 percentage points. Variation in math proficiency was also large. Approximately 70 percent of elementary, middle, and high schools had changes of between -2.0 and +20.4 percentage points.

- Improvements in proficiency are likely to continue but at a reduced pace. For example, in elementary schools African American reading proficiency averaged between 40 and 50 percent in 2002, and proficiency increased by about 20 percentage points over the next three years. In an average school African American proficiency is forecast to increase by about 10 percentage points between 2005 and 2007 and by about 5 percentage points between 2008 and 2010.
- Actual and forecast increases in proficiency were greatest for schools and subgroups that attained low levels in 2002. For example, in an average high school reading proficiency for students with disabilities was 46 percent in 2002 and increased by 14 percentage points by 2005. In contrast, in an average high school reading proficiency levels for students without disabilities averaged 86 percent in 2002 but increased by only 5 percentage points by 2005.
- It becomes increasingly difficult to boost proficiency as proficiency levels rise. For example, subgroups in schools with 80 percent or higher average proficiency levels in 2002 exhibited declines over

the next three years. Annual changes in proficiency declined by about 2.2 percentage points for every 10 percentage point increase in proficiency, and this trend is likely to continue into the future.

These findings lead to three major conclusions:

- The actual and forecast performance of Virginia public schools is in keeping with the intent of the No Child Left Behind Act to substantially increase proficiency levels, especially for schools and subgroups with low initial levels.
- Despite the strong observed and forecasted gains, it is unlikely that most schools will show consistent gains beyond 95 percent proficiency levels for whites; beyond 80 percent for African Americans, Hispanics, students with limited English proficiency, and economically disadvantaged students; and beyond 70 percent for students with disabilities.
- Close to 100 percent of Virginia's schools will not meet the status standard in 2014 as it rises from 69 percent in 2006 to 100 percent in 2014. However, it is difficult to determine how not meeting the status standard translates into schools being labeled in need of improvement. This is because the alternative "safe harbor" standard (which in Virginia is based on the year to year increase in the percentage of students testing proficient) could save as many as half of the schools from becoming identified as needing improvement.

The research also reached four methodological conclusions related to forecasting proficiency:

- The models typically used to forecast changes in proficiency are based on the untenable assumption that a school's observed increase over a base period will continue unchanged into the future. These models also do not accurately describe the range of outcomes across schools, but instead focus on the performance of schools with average characteristics.
- In forecasting proficiency it is essential to model the slowdown in a school's proficiency change as the school's proficiency level rises, to describe the range of changes across schools with similar proficiency levels, and to take into account the statistical error of the estimates.
- A school's year-to-year fluctuations in proficiency level can have a major effect on meeting performance standards, because those fluctuations are frequently large enough to allow the school to meet safe harbor standards. Modeling the meeting of safe harbor standards was outside the scope of this study but is essential for predicting which schools will be labeled as needing improvement.
- Year-to-year fluctuations in proficiency levels of individual Virginia schools were so large that it was difficult to discern long-term trends in data covering four years. This finding has important implications for developing performance measures and standards that accurately reflect progress.

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